

**DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR QUALITY DIVISION
ACTIVITY REPORT: Scheduled Inspection**

N727139812

FACILITY: PYRAMID PAVING & CONTRACTING		SRN / ID: N7271
LOCATION: 325 N. FAIRVIEW, WEST BRANCH		DISTRICT: Saginaw Bay
CITY: WEST BRANCH		COUNTY: OGEMAW
CONTACT:		ACTIVITY DATE: 05/04/2017
STAFF: Sharon LeBlanc	COMPLIANCE STATUS: Non Compliance	SOURCE CLASS: SM OPT OUT
SUBJECT: scheduled inspection - inspected on 5/4, 5/24 and 6/27/17. Failed to correct VNs identified electronically in e-mail dated June 15, 2017. Notice of VN being issued was sent electronically on 7/3/2017.		
RESOLVED COMPLAINTS:		

On May 4th, 2017, AQD District Staff arrived onsite to conduct a scheduled site inspection for Pyramid Paving and Contracting Company (Pyramid) West Branch Michigan Facility (N7271). The facility is a permitted Hot Mix Asphalt (HMA) plant operating under New Source Review Permit to Install (PTI) No. 149-03D, initially permitted on April 7, 2004 the most recent modification was approved on July 20, 2011. Supplemental site inspections to verify compliance with the referenced permit were conducted on May 24th and June 27, 2017

This facility is a synthetic minor opt out facility located at the Glancy Sand & Gravel Pit (Glancy Pit) (N6355) off of Fairview Road, West Branch Michigan. (Map in file) The inspection of the Pyramid plant was conducted with the intent of confirming operational status as well as compliance with the referenced permit. The previous inspection was conducted on July 23, 2014.

During the referenced visits, Staff met with Kevin Schalk and/or Dave Chaffin plant operators regarding the plant operations.

FACILITY DESCRIPTION

The Pyramid HMA plant is one of two HMA plants located in the Glancy Pit (N6355), the other being the Bolen HMA portable plant (B4164). The Glancy Pit is located approximately three-miles north of West Branch Michigan. A discrepancy exists with regards to the physical address of the Glancy Pit. A review of records indicates that Gravel Pit Road, and Fairview Road or N. Fairview Road have all been used.

Based on readily available plat book maps for the area, it appears that the Glancy Pit consists of approximately 586 acres and is bounded to the south by smaller privately owned residential parcels and to the north and west by state and municipally owned lands. To the east it appears that the Glancy pit is bordered by both large and small privately owned tracts.

EQUIPMENT

The Pyramid HMA plant (EUHMAPLANT, FGFACILITY) is a permanent, counter flow drum mix asphalt plant rated per the permit at 300 tons per hour. The plant consists of:

- Dillman counter flow, dual-drum system,
- Control house,
- Primary pollution control device (knock out pot),
- One bag house,
- Two HMA silos (EUSILOS) with partially enclosed truck load-outs,
- Two asphaltic concrete storage tanks (EUACTANK1 and EUACTANK2),
- Fuel Tanks (EUFUELOILTANK, EUSLURRYOILTANK and propane tank)
- Aggregate feeders and associated conveyors, and
- Assorted storage trailers.

- Electric power drop for the facility (installed in May 2009),

The June 16, 2010, permit modification (149-03C) expanded permitted fuels to allow for slurry oil in addition to the previously approved No.2 through No.4 grade fuel oils (EUFUELOILTANK), natural gas and propane. The July 20, 2011, permit modification (149-03D) expanded the approved fuels to include Recycled Used Oil (RUO). Above ground storage tank for EUSLURRYOILTANK has been installed onsite, but the approved RUO was only used on site for a limited time, due to changes in costs and sources.

COMPLIANCE HISTORY

A review of MACES and District Files indicated that no complaints are of record since November 2006.

Site inspection activities conducted August 6, 2009, noted that the dust collector was not operating within the designated differential pressure drop range, and some required records were not being maintained by onsite personnel. No further compliance issues were identified during the September 9 and October 13, 2009, or the July 23, 2014 inspections.

A review of MAERS submittals indicates that the annual emissions reports have been submitted in a timely manner. No apparent emission violations were noted for the most recent MAERS, submitted February 17, 2017 for the calendar year 2016.

COMPLIANCE EVALUATION

Operational Status/Parameters –

The facility was operating upon arrival for all three site visits. For both of the May 2017 site visits, HMA production had been completed prior to arrival, and only truck loadout activities were ongoing. Supplemental visits were made to confirm various compliance issues.

Date	Operational Status	Activities ongoing	Total Production for event
5/4/2017	Operating	Loadout only	unk
5/24/2017	Operating	Production & Loadout	583 tons
6/27/2017	Shut down	Done for day	916 tons

Under the existing permit the facility is required to operate under the following operational plans:

- The Fugitive Dust Control Plan for EUYARD specified in Appendix A of the permit (SC III.1)
- A Preventative Maintenance Program for EUHMAPLANT fabric filter dust collector (Appendix B) (SC III.2)
- The Emission Abatement Plan for Startup, Shutdown and Malfunctions specified in Appendix C (SC III.3), and
- The Compliance Monitoring Plan (CMP) for RUO specified in Appendix D (SC III.4)

Data reviewed indicated that operations for the 2017 season began on April 27, 2017. The facility operator reported that maintenance and other activities began onsite on April 10, 2017. Weekly operational summaries indicate that operations at the plant have varied due to what was reported as a slow start to roadwork activities.

Start times for the HMA plant for the months of April, May and early June of 2017 ranged from 5:15 AM to 9:00 AM. The first recorded day of HMA production for the season was April 27, 2017. Condition SC

III.7 limits operation of the facility to between the hours of 5:00 AM and 6:00 PM. Plant operations are limited by permit to between April 15th and November 30th (SC III.8).

A normal season is reported to be approximately six months running from April through mid-November. Days of operation reported by the facility as part of their annual emissions reporting is presented below.

Calendar Year	Days of Operation (MAERS)
2016	85
2015	69
2014	55
2013	47
2012	86
2011	49
2010	83

Under the existing permits the facility is allowed to produce 250,000 tons per 12-month rolling time period (SC II.6). Production for the facility reported under the Michigan Air Emissions Reporting system (MAERS) is reflected below.

Calendar Year	Reported Production (tons)
2008	85,902
2009	66,530
2010	74,810
2011	53,083
2012	94,884
2013	51,223
2014	69,384
2015	72,731

2016	99,958
2017 as of 5/30/17	6,351

Per permit, the facility is required under SC III.5 requires fine tuning of the burners for proper burner operation and performance. The referenced condition requires that the tuning is conducted at the start of each paving season or upon a malfunction of EUHMAPLANT as shown by the CO emission data. At the time of the May 4th and 24th site visits, the facility had not completed formal engine tune-ups by a third party. The facility operator indicated that such activities require longer operation periods. The facility anticipated completion of the activities on approximately June 1, 2017.

Upon request the corporate office provided a copy of a service call report dated June 19, 2017. The document indicated that the burner/kiln was running and that fuel and air mixture changes could not be made at that time. Discussions with the operator on June 27, 2017, indicated that the previous (years) burner inspection had required that the burner be in full production to do the testing, so he was unsure why this time it was different. CO readings reported by the contractor indicated a CO range of apx. 1100 - 1235 ppm. In addition, the office provide multi-gas meter readings obtained by the operator or other Pyramid staff on May 20, 2017 Readings from that data set reported CO emissions below detection levels for the unit, indicating that the data is suspect. CO emission readings collected on June 1, 2010, were reported to range from 774-801 ppm.

The following data was collected in conjunction with the May 24, 2017, site inspection. Feed rates and operational parameters are monitored continuously on the control screen, with summary printouts every 45 minutes. A summary print out is made at the end of each day, and the data transferred onto the weekly summary log sheet by the operators. Records are provided daily to the main office in Essexville.

Date	Mix Type	Process Rate (ton/hr)	Asphalt Rate (ton/hr)	RAP Rate (ton/hr)	RAP %	Aggregate Rate (ton/hr)	Mix Temp	Exhaust Temp
5/24/2017	21 LVSP	179	10.3	29	16	139	256	NR

SC II.7 limits the rate of process/production of HMA in EUHMAPLANT to no more than 300 hours per hour, based on a daily average. At the time of May 24, 2017 site visit, the HMA production rate was in compliance with permit conditions.

The primary collector and bag house were installed and operating at the time of the inspection. (SC IV.1) The differential pressure for the bag house is measured with a Dwyer Photohelic gauge (SC VI.1). The gauge is monitored by the onsite operator to confirm continued operation within a clearly marked range. The reported differential pressure at the time of the inspection was within the 3 to 6 inches of water required by permit (SC IV.1).

Operational conditions with reference to FGTANKS require the installation, maintenance and operation in a satisfactory manner of a vapor condensation and recovery system (III.1). It is the inspector's understanding that the system has been installed.

Material Usage Rates –

At the time of the first inspection the facility was not producing any HMA. Production had been completed earlier in the morning and the plant was in the process of loading out what had been produced. At the time of the second inspection, the plant was in the process of completing production for the morning, and was still loading trucks. Further production during those visits was reported to be unknown as no additional orders had been made.

Material Limits for the facility includes the amount of slurry oil used per 12-month rolling time period (II.1) and II.3 which restricts the Plant from using any hazardous waste blended fuel oil or specification

RUO that exceeds the concentrations outlined in SC II.3. As the facility not having used slurry oil since the 2011 paving season these conditions are not presently applicable.

The facility was reported to have shifted to operation on LP fuel, in compliance with fuels allowed under SC II.2. SC VI.6 requires daily records of fuel usage. Fuel usage is reported daily and is submitted to the corporate office, meeting the daily record keeping requirement.

SC II.5 allows for a maximum of 30% RAP in HMA mix based on a monthly average for this facility. Based on the limited production data received for the season it appears that the facility is in compliance with permit conditions for RAP content.

SC VI.2 requires continuous monitoring of RAP and virgin aggregate feed rates. Feed rates and operational parameters are monitored continuously on the control screen, with summary printouts printed out at whatever interval desired by the operator. Records are also reported to be kept for all changes in production/mix,(SC VI.7) records for the paving season are reported to be kept onsite. The information is provided to the corporate office.

Materials for production consisted of stockpiles of various grades of sand and gravel, stored on site and asphaltic cements stored in tanks onsite (EUTANK1 and EUTANK2). No asbestos containing materials are reported to be used in asphalt production for the facility. (SC III.6) Materials are transported from onsite stockpiles to the aggregate feed bins and transported by conveyor to the HMA drum. Material usage rates were controlled from the control building, and daily production data/records are maintained onsite and were reviewed as part of this inspection.

Emission Sources –

Multiple emission sources were identified during the referenced 2017 site inspection, and included the HMA plant stack (SVHMAPLANT), the material silos/ truck loading areas (volatiles), fuel tanks, aggregate stockpiles, conveyors, and EUYARD trucks and roadways.

EUHMAPLANT -- The stack (SVHMAPLANT), was unobstructed, and estimated by the Pyramid staff to be approximately 75-ft high (50-ft height is specified in permit), and approximately 4.5 by 4.5-feet in diameter. (SC VIII.1) The plume coming from the bag house on the May 25, 2017, site visit was white and slightly detached, and appeared to be steam associated with the hot asphalt production. No tail off or fall out was noted. The outdoor temperature at the time of arrival was approximately 50°F. The exhaust gas temperature was reported to be approximately 253°F.

The bag house is reported to contain approximately 954 fabric filter bags, with spares kept onsite for unscheduled repairs [EUHMAPLANT Special Condition (SC) III.2, Preventative Maintenance Program for the Fabric Filter Dust Collector Appendix B].

Per Appendix B, the facility is required to conduct and document in writing the following baghouse (also referred as fabric filter dust collector) preventative maintenance activities:

- Black light inspections as well as visual inspections of the interior components of the fabric filter dust collector,
- Replacement of filter bags and documentation as to damage found.

The above referenced activities are required to be conducted before or at the beginning of each paving season. On May 4th, 2017, the operator indicated that the baghouse inspection had been conducted onsite on April 6, 2017. No black light inspection was conducted at that time. The inspection was limited to a visual inspection of the interior of the baghouse. No bags were replaced at that time. This was brought to the attention of the corporate office and a black light inspection was conducted on June 16, 2017. Facility staff reported that no bags were required to be replaced. A black light for supplemental inspection (if needed) was documented as being onsite.

In compliance with pressure drop monitoring for the fabric filter (Appendix B), the facility does have a continuous monitor, and is in compliance with the daily recording of the differential pressure. The information however is not recorded in a bound notebook, the information is recorded on the daily reporting summary submitted to corporate office, which is a commonly accepted business practice.

The facility reports having a high temperature sensor and alarm system associated with the fabric filter baghouse.

EUSILOS – At the time of the May 4, 2017 site inspection, District Staff noted that significant quantities of blue-black smoke was being generated during loadout activities. None of the occasional darker emissions sometimes noted at the tops of silos or during vehicle loading have historically been an issue with the facility. When brought to the attention of facility staff they noted that the fuse for the associated capture fan had blown, and facility staff went offsite to find a replacement fuse. Upon replacement, some change was noted, but sufficient loadout emissions were still escaping the loadout area. The loadout for this facility is partially enclosed, two sides being enclosed with a clear corrugated sheeting to provide a view of the loading activities. A number of those panels were noted to be broken or missing, and smoke generated during loadout was escaping thru those openings before it could be captured by the fan. District staff requested that the repairs be made and that the inspector be notified upon completion so the inspection could be completed. EUSILOS conditions III.1 & 2 require installation, maintenance and proper operation of a emission capture system for the top of each storage silo, as well as an enclosed loadout with an emission capture system.

On the May 24, 2017, site visit, District Staff confirmed the proper operation of the loadout capture system.. Pyramid staff confirmed that emissions in the truck loading area and the HMA Silos are captured and vented into the burning zone (EUSILOS, SC III.1 & 2).

FGTANKS – Pyramid Staff confirmed that vapor condensation and recovery system was installed, maintained and operated in a satisfactory manner in compliance with FGTANKS SC III.1.

FUGITIVE DUST -- Other potential minor emission points existing at the site included fugitive dust from aggregate feed/conveyor location, as well as aggregate stockpiles, and roadways. No fugitive dust from the aggregate feed or conveyors was noted during the short operation period during the site inspection. Recent rains resulted in no fugitive dust from roadways and aggregate stockpiles onsite.

A fugitive emission control program (EUHMAPLANT SC III.1) was specified in Appendix A of General Permit 149-03D and it's components are referenced in other sections of this report. Drives were noted to be paved and speed limits posted upon entry at the western property gate, though some of the paved roadways closer to the pit have been covered with pea-gravel or sands resulting from heavy rains, truck traffic and elevation differences onsite. (fugitive dust plan, Appendix A)

Daily summary logs provided to the corporate office by staff indicated that other than rain, no dust control was being used on roadways. The plant operator and front end loader operator indicated that the loader operator applies water to the roadways when needed. Staff indicated that the daily logs need to reflect the activity, and that rain did not qualify for activity on their part, and that if they were relying on recent rains to control the dust they should be indicating no dust control activities for the day.

During the site inspection, loads were observed to be tarped/covered prior to leaving the load out area. (fugitive dust plan, Appendix A).

In addition, please note that no emissions were noted coming from the drums themselves. Staff did report some issues with a band on the HMA drum, but that efforts were being taken to correct the issue. Dust collected from the bag house was reported to be returned to the drum mix using a screw auger system (Appendix B). No off site disposal is required.

Formal Method 9 VE observation tests were not conducted during the site inspection due to the limited periods of operation. In addition, no unusual emissions were noted during the inspection that would warrant Method 9 testing. The facility has certified onsite staff that conducts VE observations on days of operation, the verification of the activity is on two places in the daily operational log.

Monitoring and Testing –

The following testing may be required at the owner's expense:

- SC V.1 -- Odor verification and quantification at the owner's expense.
- SC V.3 – PM, CO, SO₂, NO_x, Lead and HAPs.

- SC V.2 – Toxic Air Contaminants (TACs) including; acrolein, arsenic, benzene, ethylbenzene, formaldehyde, lead, manganese, naphthalene, nickel sulfuric acid mist, toluene, xylene and hydrogen chloride.

It should be noted that compliance emission testing at the facility was conducted by Network Environmental, Inc. Staff on August 24-27, 2004 to comply with permit conditions required under air permit 149-03A. The plant was reported at that time to be operating at approximately 210 tons per hour of HMA, and was fired with RUO during testing. Test results included the following parameters; arsenic, lead, manganese, nickel, formaldehyde, acrolein, benzene, ethylbenzene, toluene, xylene, naphthalene, sulfuric acid and PM. Test results reported appeared to be in compliance with permitted emission limits under the referenced permit.

District Files also contain a copy of Source Emissions Test results for PM emissions for the facility in a report dated October 9, 2003. The plant at the time of testing was reported to be operating at an average of 227 ton/hr. PM emissions reported were in compliance with permit requirements .

CO emissions are reported to be monitored (SC V1.3) with a hand held monitor purchased by Pyramid. AQD staff had confirmed in a previous visit that the instrument was designed to continuously monitor CO emission levels at the probe. However as previously noted, the facility did not conduct the pre-season boiler tune-up until June 19, 2017. In violation of SC III.5. CO readings were collected on June 19, 2017, by a contractor and on May 20, 2017, by facility staff but neither meet the requirements for a data set as outlined in SC VI.3. Data provided either consisted of less than the 8 readings, or were completed in less than the 30 minute time period. In addition, records submitted for CO readings collected by facility staff on May 20, 2017, reported non-detectable CO concentrations. Plant records indicate that the facility conducted the required (SC III.5)

Appendix B requires observation of the pressure drop across the fabric filter dust collector in EUHMAPLANT once per day. Staff report that the gauge is marked with an appropriate operating range for the bag house, and that the operator monitors to make sure that it is operating within that range. Differential is recorded on the daily log as is if a bag house inspection was conducted that day.

Permit monitoring requirements with respect to aggregate and RAP feed rates are discussed under material use and operations.

Prevention and Maintenance Plans –

Permit 149-03D EUHMAPLANT SC III.5 and EUYARD SC III.1 require implementation of fugitive emissions control plan specified in Appendix A of the referenced permit. The referenced plan includes: site maintenance, management of on-site roadways, onsite management of haul vehicles, management of front-end loader operations and record keeping. With reference to fugitive dust management activities, Pyramid staff reported that dust control was principally controlled by application of water to roadways and stockpiles and speed limits were clearly posted. HMA haul vehicles traveled on asphalt paved roadways. All out-going trucks were noted to cover their loads prior to leaving the loading area, and a sign stating the requirement was visible. No overfilling of aggregate feed hoppers was noted during the site inspection. Pyramid staff reported that activities required under the referenced fugitive dust plan were implemented and reported that daily records of associated activities are kept on the daily operational log sheets. (Copies of Daily Log Sheets may be found in District files)

SC VI.12 requires that all necessary attempts to keep all components of EUHMAPLANT be maintained and operating satisfactorily at all times, and that logs of all significant maintenance activities and repairs be kept. Appendix B of the referenced permit outlines the preventative maintenance plan for the fabric filter dust collector. Activities outlined in the referenced appendix outline requirements for fabric filter dust collector operating pressures, alarm systems, handling and storage of fabric filter dust, piping and seals maintenance, black light inspections, filter bag inventories, bound log book requirements and actions required in the case of visible emissions. During sit inspection activities, Pyramid staff indicated that there was an alarm system for the existing equipment, and control equipment maintenance schedule. Unless issues arise during the operating season, maintenance activities are conducted prior to startup of the operating season. Activities are reported in general daily logs, and Pyramid provided a summary of activities for the present operating season. However, there is no formal log book or other records kept outlining maintenance, inspection and/or repair activities In addition, they reported that spare bags and parts for the pollution control device were kept onsite (also noted in

previous inspections) but the facility does maintain electronic records consistent with more recent business practices.

Record Keeping and Reporting –

Under General Permit 149-03D requirements for record keeping and reporting included:

- Continuous records of virgin aggregate feed rate and RAP feed rate (VI.2),
- Daily records of information sufficient to identify all components of the asphalt paving mixture. (SC VI.7)
- Monthly and 12-month rolling time period records of the amount of HMA paving material produced from EUHMAPLANT. (SC VI.6 & 10)
- Intermittent records of asphalt paving material product temperature (SC VI.7),
- Daily records of tons of HMA produced containing RAP and the average percent of RAP per ton produced for HMA containing RAP and hours of operation. (SC VI.7 & 10)
- Monthly records of type and amount of all fuel oils combusted, sulfur content by weight, specific gravity, flash point and their higher heating values (SC VI.6)

As previously indicated feed rates and operational parameters are monitored continuously on the control screen, with summary printouts. A review of the onsite records indicates that the information required to meet the above referenced record keeping and recording requirements has been met. Records are also available for review at the main office.

The following record keeping and reporting requirements were not available onsite, and are were found to be completed by staff at the Main Office in Bay City, Michigan. They are readily available upon request.

- Monthly and 12-month rolling time period emission calculations of all criteria pollutants and TACs listed in the Emission Limit Table for EUHMAPLANT (SC VI.8)
- Calculations of annual fugitive dust emissions of particulate matter for EUYARD (EUYARD, SC VII.2) and the actual emissions of HAPs from FGFACILITY (FGFACILITY, SC VI.2 and 3)
- Records of all CO emissions and related production data including the dates and times of emissions monitored. CO emission data will be used to calculate the pounds of CO emitted per ton of HMA produced. (SC VI.10)
- Records of emissions and operating information to comply with 40 CFR Part 60 subparts A and I for HMAPLANT (SC VI.4)

The general permit for the facility requires that calculations for emissions referenced above be made available by the 15th of the calendar month for the previous calendar month. (FGFACILITY SC VI.1) (EUHMAPLANT SC VI.8). A review of emission calculations submitted for review, indicated that the facility was not keeping records of all HAP and TAC emissions outlined in the EUHMAPLANT emissions table. The facility has corrected this error prior to completion of the inspection report.

In addition, the general permit requires the facility to maintain copies of all records and calculations on file for a period of at least 5 years. The referenced records are maintained on an electronic database and are kept updated. All historical records are available.

Summary –

On May 4th, 2017, AQD District Staff arrived onsite to conduct a scheduled site inspection for Pyramid Paving and Contracting Company (Pyramid) West Branch Michigan Facility (N7271). The facility is a permitted Hot Mix Asphalt (HMA) plant operating under New Source Review Permit to Install (PTI) No. 149-03D, initially permitted on April 7, 2004 the most recent modification was approved on July 20, 2011.

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This facility is a synthetic minor opt out facility located at the Glancy Sand & Gravel Pit (Glancy Pit) (N6355) off of Fairview Road, West Branch Michigan. (Map in file) The inspection of the Pyramid plant was conducted with the intent of confirming operational status as well as compliance with the referenced permit. The previous inspection was conducted on July 23, 2014.

Information reported during site inspection activities indicated that with the exceptions identified below, the facility was in general operation and material use was in compliance with the permit:

- Prior to the season startup, the permit requires that the facility conducts burner tune-up and CO emission monitoring (SC VI.3) Pyramid has a hand held monitor onsite. Season start-up was reported to be April 23, 2017. CO readings were collected on June 19, 2017, by a contractor and on May 20, 2017, by facility staff but neither meet the requirements for a data set as outlined in SC VI.3. Data provided either consisted of less than the 8 readings, and/or were completed in less than the 30 minute time period. In addition, records submitted for CO readings collected by facility staff on May 20, 2017, reported non-detectable CO concentrations.
- At the time of the May 4th and 24th site visits, the facility had not completed formal engine tune-ups required before season start-up (SC III.5). A contractor was on site to do engine tune-up activities on June 19, 2017. Upon request the corporate office provided a copy of a service call report dated June 19, 2017. The document indicated that the burner/kiln was running and that fuel and air mixture changes could not be made at that time. Discussions with the operator on June 27, 2017, indicated that the previous (years) burner inspection had required that the burner be in full production to do the testing, so he was unsure why this time it was different.

The facility owner was notified electronically of the two referenced compliance issues on July 3, 2017. A VN was issued for the violations on July 12, 2017.

NAME Sharon G. B. Stone

DATE 7/12/2017 SUPERVISOR C. Stone